

## **REMARKS**

### **A. STATUS OF THE APPLICATION**

Applicants wish to thank the Examiner for her clear explanation of the rejections in the Final Office Action dated February 13, 2006.

#### **(I) DISPOSITION OF CLAIMS**

- (i) Claims 11, 12, 16, and 18-21 are pending in the application.
- (ii) Claims 1-10, 13-15, and 17 were previously canceled.
- (iii) Claims 11, 12, 16, and 18-21 are rejected under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a).

#### **(II) APPLICANTS' ACTION**

- (i) Applicants respond to rejection of Claims 11, 12, 16, and 18-21.

### **B. RESPONSE TO REJECTION UNDER 35 U.S.C. § 102(B)**

Applicants respond to Examiner's 35 U.S.C. § 102(b) based rejection of claims in the present patent application.

#### **CLAIMS 11, 12, 16, AND 18-21 -U. S. PATENT 6,063,448 TO DUECOFFRE, ET AL.**

Claims 11, 12, 16, and 18-21 have been rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 6,063,448 to Duecoffre, *et al.* (*hereinafter* "Duecoffre").

Duecoffre teaches a process for coating, using a two-layer system of a base coat and a clear coat. The clear coat is applied from a non-aqueous coating medium containing a hydroxyl-functional binder. Said hydroxyl-functional binder is based on a hybrid polymer system of (meth)acrylic copolymer and a hydroxy-functional polyester. Further, the (meth)acrylic copolymer is prepared in the presence of the polyester polyol.

The hybrid polymers used in Duecoffre are different from a simple physical mixture of a (meth)acrylic copolymer and polyester polyol, as seen in the present invention. The Examiner suggests that the polyester described in Duecoffre is similar to the polyester polyol (a) of the present invention. However, Duecoffre's

clear coat does not contain a polyester polyol, but instead contains a hybrid binder comprising polyester polyol as one part, and the (meth)acrylic acid as the second part.

Further, in Duecoffre, the (meth)acrylic copolymer portion has been prepared by free-radical polymerization in presence of hydroxy-functional polyesters to give a hybrid polymeric system. In the present invention, to the contrary, the polyester polyol is a simple physical mixture. The degree of entanglement of the two different polymer chains is greater in the hybrid polymer system (Duecoffre) than in a simple physical mixture (of the present invention).

Additionally, both of the polymer portions of the hybrid polymer system or the binder may be covalently bonded in Duecoffre. The free-radical polymerization of the monomeric mixture builds up the vinyl polymer portion of the hybrid binder. This may be accomplished through copolymerization or graft polymerization of the olefinically unsaturated monomers, with or onto olefinic double bonds of the polyester resin. The polymerization may also occur in the presence of a polyester resin, free of olefinic double bonds. Alternatively, there may be a graft polymerization of the olefinically unsaturated monomers onto the polyester portion of the polyester/vinyl polymer hybrid binder initiated by proton loss from the polyester resin. Therefore, Duecoffre does not teach polyester polyol (a) of the present invention, but instead teaches hybrid polymers.

Also, Duecoffre does not teach the claimed quantitative composition of components (a1) and (a2) of the present invention, which require that the hydroxyl components and carboxyl components comprise no more than 20 wt-% of at least one diol and at least one monocarboxylic acid, respectively. To the contrary, Example 1 of Duecoffre comprises 57.8 wt-% of monocarboxylic acid (isononanoic acid) among the carboxyl components and Example 2 of Duecoffre comprises 57 wt-% diol (hexane diol) among the hydroxyl components. In these Examples, both values (the 57.8 wt-% and 57 wt-%) are far above the upper limit disclosed in the present invention, which is 20 wt-% in either case. This upper limit is set at 20 wt-% to ensure the high level of hydroxyl-functionality of the final polyester of the present invention. Although Duecoffre teaches that 0 to 40 wt% of dihydric alcohols of molecular weight range 62 to 2000 Da, and 0 to 60 wt% of monocarboxylic acid of molecular range 112 to 600 Da are used for preparing polyester polyols (See col. 14, lines 40-65), it neither gives a specific example that is within a claimed range of 0 to

20% of monocarboxylic acid component (corresponding to element (a2) in Claims 11 and 12), nor does it give a specific example that is within a claimed range of 0 to 20% of a diol (corresponding to element (a1) in Claims 11 and 12), as claimed by the present invention. According to MPEP § 2131.03 (II)-Anticipation of Ranges, “[w]hen the prior art discloses a range which . . . overlaps . . . the claimed range, but no specific examples falling within the claimed range are disclosed, a case by case determination must be made as to anticipation. In order to anticipate the claims, the claimed subject matter must be disclosed in the reference with “sufficient specificity to constitute anticipation under the statute.”” Although Examples 1 and 2 of Duecoffre discuss a 57.8 wt % of monocarboxylic acid and a 57 wt% of hexane diol, respectively, clearly, these quantities do not constitute a “sufficient specificity” to constitute anticipation of the claimed range of 0-20% both for the monocarboxylic acid component (element (a(2))) and the diol (element (a1)) of the present invention.

Further, it appears that the Examiner has misconstrued the Duecoffre’s teachings by erroneously linking one portion of the reference to another portion of the reference. Under a judicial interpretation by the Court of Appeals for the Federal Circuit (*See Echolochem, Inc. v. Southern California Edison Co.*, 227 F.3d 1361, Fed. Cir. 2000), this is impermissible. Specifically, Duecoffre’s polyesters are ordinarily known polyesters. The polyesters claimed in the present invention with the specific combination of limitations cannot be found in Duecoffre. A hypothetical person skilled in pertinent art, desirous of developing polyester-based clear coat with the advantageous properties described in the present application, would not look into Duecoffre as closest prior art. Nevertheless, if the skilled person were to do so, he/she would not find any suggestion or combination in Duecoffre’s disclosure describing the limitations claimed in the present invention. If such person were to look at polyesters described in Duecoffre’s Example in order to find the best mode polyesters, such polyesters, however, would teach in a different quantitative range from our specifically limited polyesters.

**C. RESPONSE TO REJECTION UNDER 35 U.S.C. § 103(A)**

Applicants respond to Examiner’s 35 U.S.C. § 103(a) based rejection of claims in the present patent application.

(I) CLAIMS 11, 12, 16, AND 18-21 -U. S. PATENT 6,063,448 TO DUECOFFRE, ET AL.

Claim 11 has been rejected under 35 U.S.C. § 102(b) as anticipated by, or in the alternative, obvious under 35 U.S.C. §103(a) over U.S. Patent 6,063,448 to Duecoffre, *et al.* (*hereinafter* "Duecoffre").

Initially, Applicants wish to indicate that the Examiner has included U. S. Patent 4,880,890 to Miyabayashi, *et al.* (*hereinafter* "Miyabayashi") in the discussion of this rejection, although Claim 11 has not been rejected over the specific combination of Duecoffre and Miyabayashi. However, even if the Examiner proffered this combination of references, such a combination would not render the present invention obvious.

In the interests of expediting prosecution, Applicants offer the following remarks. As noted above, Duecoffre describes hybrid polymers rather than the physical mixtures disclosed in the present invention. Thus, the use of polyesters described in Miyabayashi and in the teachings of Duecoffre would again result in hybrid polymers rather than a simple mixture of a (meth)acrylic copolymer and polyester polyol. Additionally, Miyabayashi neither teaches nor suggests that the polyesters described therein are suitable for use as a binder in clear coats for base coat/clear coat two-layer coating having the properties of the present invention. Therefore, Applicants respectfully request that the rejection be withdrawn.

(II) U. S. PATENT 4,880,490 TO MIYABAYASHI, ET AL. AND U. S. PATENT 5,397,638 TO MIKI, ET AL.

Claims 11, 12, 16, 18-21 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent 4,880,890 to Miyabayashi, *et al.* (*hereinafter* "Miyabayashi") in view of U. S. Patent 5,397,638 to Miki, *et al.* (*hereinafter*, "Miki").

Examiner's Hypothesis

Miyabayashi fails to teach that the method is suitable for treating automotive body. However, Miki teaches that increasing requirements for more corrosion resistance than before in automotive bodies and household electric appliances are met by coating zinc alloy-plated steel sheets with a chromate layer and resin film (See column 1, lines 10-29). According to the Examiner, Miki therefore is a

secondary reference, which is relied upon to show that a method suitable for treating household electric appliances is also suitable for treating automotive bodies.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the method of Miyabayashi for treating automotive bodies with the expectation of providing the desired high flexibility, stain resistance and chemical resistance because Miki is a secondary reference, which is relied upon to show that a method suitable for treating household electric appliance is also suitable for treating automotive bodies.

#### Applicants' Remarks

In order to expedite procedure, Applicants had previously amended Claims 11 and 12. However, Applicants respectfully disagree with the Examiner's reasoning of obviousness under 35 U.S.C. § 103(a) with reference to Miyabayashi in view of Miki.

Section 2142 of the MPEP indicates that a *prima facie* case of obviousness is established only when:

- (1) all of the claim limitations are either taught, or suggested by the cited prior art;
- (2) there is some suggestion or motivation to modify or combine the cited prior art references; AND
- (3) there is a reasonable expectation of successfully producing the claimed invention via such a combination.

Applicants respectfully submit that a *prima facie* case of obviousness is not established because the second prong of the obviousness inquiry is not satisfied. The second prong of the obviousness inquiry states that there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings is not satisfied (See *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002)). Specifically, neither Miyabayashi, nor Miki, express any suggestion or motivation to combine the two references to arrive at the claims of the present invention in question.

Applicants also respectfully submit a *prima facie* case of obviousness is further not established because the third prong of the obviousness inquiry is not satisfied. Applicants do not believe that the combination of Miyabayashi with Miki teaches or suggests the present invention. There is no likelihood or an expectation of success from such a combination. Even if such a combination is made, this does

not result in an automotive body base coat/clear coat top-coating process, as claimed by the present invention because neither of the references mentions or suggests base coat/clear coat top-coating process. The Examiner points at Miki, col. 1, lines 10-29. However, this citation relates to electrocoatable resin-coated steel sheets (typical primer coatings for bare metal). Therefore, there is no reasonable expectation of success from such a combination.

Therefore, Applicants respectfully submit that the Examiner has not met her burden of proof in establishing a *prima facie* case of obviousness, and therefore, Miyabayashi in view of Miki does not render the claims of the present invention obvious.

### CONCLUSION

In view of the above remarks, Applicants respectfully submit that stated grounds of rejection have been properly traversed, accommodated, or rendered moot and that a complete response has been made to the Final Office Action mailed on February 13, 2006.


Therefore, Applicants believe that the application stands in condition for allowance with withdrawal of all grounds of rejection. A Notice of Allowance is respectfully solicited. If the Examiner has questions regarding the application or the contents of this response, the Examiner is invited to contact the undersigned at the number provided.

Should there be a fee due which is not accounted for, please charge such fee to Deposit Account No. 04-1928.

Respectfully Submitted,

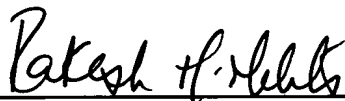
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